

CLAIMS

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is as follows:

1 1. A portable pill crushing device, comprising:
2 a housing;
3 a motor disposed in said housing;
4 at least one roller rotatably mounted within the housing and drivingly connected
5 to said motor, said roller having an outer surface for engaging and
6 crushing pills; and
7 a pressure plate attached to the housing, said pressure plate having a first
8 position in which a first surface of the pressure plate is disposed adjacent
9 to the outer surface of the roller, whereby pills can be crushed between
10 the pressure plate and the roller as the roller is rotatably driven by the
11 motor.

1 2. The portable pill crushing device according to claim 1, wherein said pressure
2 plate is rotatably connected to the housing such that the pressure plate can be rotated
3 away from the roller for inspection and cleaning.

1 3. The portable pill crushing device according to claim 1, wherein said pressure
2 plate is rotatable about a first axis away from said first position and into close
3 proximity to an outer surface of the housing for engaging and crushing pills between
4 the pressure plate and the outer surface of the housing in a manual pre-crushing
5 operation.

1 4. The portable pill crushing device according to claim 1, wherein said pressure
2 plate is rotatable about a first axis away from said first position such that the first
3 surface of the pressure plate moves away from the outer surface of the roller and a
4 second surface of the pressure plate moves into close proximity to a top side of the
5 housing, whereby said pressure plate cooperates with said housing to provide a
6 manual pre-crushing operation.

1 5. The portable pill crushing device according to claim 4, wherein an upper
2 surface of the housing comprises a sloped surface that directs pills to be crushed into a
3 space between the pressure plate and the roller.

1 6. The portable pill crushing device according to claim 5, wherein said second
2 surface of the pressure plate is movable into close proximity to said sloped surface to
3 provide the manual pre-crushing operation.

1 7. The portable pill crushing device according to claim 1, wherein said housing
2 has a base for stabilizing the crushing device during use.

1 8. The portable pill crushing device according to claim 7, wherein said base has
2 a vacuum lock system operable to anchor the crushing device to a smooth surface
3 using a vacuum created between the base and the smooth surface.

1 9. The portable pill crushing device according to claim 1, wherein said at least
2 one roller comprises a series of rollers, and the first surface of the pressure plate is
3 disposed adjacent to the respective outer surfaces of the rollers for crushing pills as
4 the pills pass between the first surface of the pressure plate and the outer surfaces of
5 the rollers.

1 10. The portable pill crushing device according to claim 1, wherein said rollers
2 include a first roller closest to an inlet of the crushing device and a last roller closest
3 to an outlet of the crushing device, and a spacing between said pressure plate and the
4 respective outer surfaces of the rollers decreases from the first roller to the last roller
5 to provide a gradual progression of crushing from coarse material to fine material.

1 11. The portable pill crushing device according to claim 1, wherein said motor
2 is connected to said at least one roller by a gear train.

1 12. The portable pill crushing device according to claim 1, wherein said
2 housing comprises a receptacle formed therein for receiving a rechargeable battery for
3 supplying power to the motor.

1 13. The portable pill crushing device according to claim 1, wherein said
2 housing comprises a front side, a bottom side, a top side, and right and left sides, the
3 rollers are pivotally mounted at their respective ends to the right and left sides of the
4 housing, the pressure plate is arranged to substantially cover the front side, an inlet of
5 a crushing chamber is provided between the top side and an upper end of the pressure

6 plate, and an outlet of the crushing chamber is provided between the bottom side and
7 a lower end of the pressure plate.

1 14. The portable pill crushing device according to claim 1, wherein said at least
2 one roller comprises a plurality of rollers which are made of stainless steel and have
3 smooth outer surfaces.

1 15. The portable pill crushing device according to claim 1, further comprising a
2 plastic enclosure for encasing a pill during crushing to prevent contamination.

1 16. A portable pill crushing device, comprising:
2 a housing having a base for supporting the pill crushing device in an upright
3 position;
4 a motor disposed in said housing;
5 a battery removably attached to said housing for supplying electrical power to
6 said motor; and
7 a series of rollers rotatably mounted within the housing and drivingly connected
8 to said motor, said rollers each having a smooth outer surface for
9 engaging and crushing pills.

1 17. The portable pill crushing device according to claim 16, further comprising
2 a pressure plate attached to the housing, said pressure plate being movable between a
3 closed position in which a first surface of the pressure plate is disposed adjacent to the
4 outer surfaces of the rollers, and an open position in which the pressure plate is
5 displaced away from the outer surfaces of the rollers to facilitate inspecting and
6 cleaning the rollers.

1 18. The portable pill crushing device according to claim 16, wherein said
2 pressure plate is rotatable about a first axis from said closed position to said open
3 position and is further rotatable about said first axis to move a second surface of the
4 pressure plate into close proximity to an outer surface of the housing for engaging and
5 crushing pills between the pressure plate and the housing in a manual pre-crushing
6 operation.

1 19. The portable pill crushing device according to claim 16, wherein said
2 housing has a base equipped with a vacuum lock system which is operable to anchor
3 the crushing device to a smooth surface using a vacuum created between the base and
4 the smooth surface.

1 20. The portable pill crushing device according to claim 16, further comprising
2 a plastic enclosure for encasing a pill to be crushed to prevent direct contact of the pill
3 with the rollers and the pressure plate to avoid contamination.

1 21. A method of crushing pills, comprising the steps of:
2 providing a portable pill crushing device having a housing, a motor disposed in
3 said housing, a series of rollers rotatably mounted within the housing and
4 drivingly connected to the motor, and a pressure plate attached to the
5 housing;
6 placing a pill to be crushed into an inlet of the housing; and
7 crushing the pill by energizing the motor to rotate the series of rollers and
8 causing the pill to pass between the pressure plate and respective outer
9 surfaces of the rollers.

1 22. The method of crushing pills according to claim 21, further comprising the
2 step of encasing the pill in plastic, and performing said crushing step while the pill is
3 encased in plastic to avoid contamination.

1 23. The method of crushing pills according to claim 21, further comprising the
2 steps of:
3 pre-crushing the pill by manually pivoting the pressure plate relative to the
4 housing to engage the pill between the pressure plate and a surface of the
5 housing adjacent to the inlet; and
6 repositioning the pressure plate into close proximity to the respective outer
7 surfaces of the series of rollers to prepare the crushing device for said
8 crushing step.

1 24. The method of crushing pills according to claim 23, further comprising the
2 step of encasing the pill in plastic, and performing said pre-crushing and crushing
3 steps while the pill remains encased in plastic to avoid contamination.